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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,884	11/13/2003	Masashi Shiraishi	010997B	6111
23850	7590	08/24/2005	EXAMINER	
ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP			KIM, PAUL D	
1725 K STREET, NW			ART UNIT	
SUITE 1000			PAPER NUMBER	
WASHINGTON, DC 20006			3729	

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/705,884

Applicant(s)

SHIRAIISHI ET AL.

Examiner

Paul D. Kim

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 39-53 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 39-53 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/933,774.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/13/03, 8/19/04, JP/6/04
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested –A MANUFACTURING METHOD OF A HEAD GIMBAL ASSEMBLY--.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 39-53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 39 recites the limitation "said support" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 39, 43-46 and 51-53 are rejected under 35 U.S.C. 102(b) as being anticipated by Soeno et al. (US Pat. 6,246,552).

Soeno et al. teach a process of making a head gimbal assembly comprising steps of: preparing a precise positioning actuator (4) with a pair of movable arms (41, equivalent with slider fixing sections as per claim 44) capable of displacing in response to a drive signal applied thereto; catching a head slider (2) with at least one head element (1) in a space between the movable arms of said actuator; and fixing the actuator with the caught head slider to a suspension (3) as shown in Fig. 12 (see also col. 26, lines 6-33).

As per claim 43 the actuator is fixed to the suspension by an adhesive (col. 33, lines 58-63).

As per claim 45 there are air gas between the arms and the side surface of the slider as shown in Fig. 12.

As per claim 46 the actuator has a base (43) fixed to the suspension (3) and the arms extending from the base as shown in Fig. 12.

As per claim 51 the actuator has a U shape as shown in Fig. 12.

As per claim 52 the actuator is thinner than the slider as shown in Fig. 12 (see also col. 26, lines 17-22).

As per claim 53 the at least one head element (1) is at least one thin film magnetic head element.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soeno et al. in view of Bonin (US PAT. 6,351,354).

Soeno et al. teach all of the limitations as set forth above except fixing between the actuator with the slider with an adhesive (as per claim 40) by curing after the fixing (as per claim 42). Bonin teaches an actuation system having an actuator (40) and a slider (24) and fixing between the actuator and the slider with an adhesive such as epoxy in order to fix the slider to the actuator as shown in Fig. 4 (see also col. 3, lines 39-67). Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify a process of fixing the slider with the actuator of the head gimbal assembly of Soeno et al. by an adhesive as taught by Bonin in order to fix the slider to the actuator firmly. Also, in the manufacturing of the electrical assembly, the adhesive in between the element has to be cured for fixing each other, which is old and well known in the art.

As per claim 41 Soeno et al. teach a movable part (44) at tips of the arms is coupled opposite sides of the slider for holding or supporting to form the actuator assembly as shown in Fig. 12. Therefore, it would have been obvious to apply a force (or pinching force) of movable part (44) to the slider in order to hold the slider.

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8. Claims 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Soeno et al. in view of Fukushima et al. (US PAT. 5,457,075).

Soeno et al. teach all of the limitations as set forth above including a piezoelectric material used for the actuator. However, Soeno et al. fail to teach an elastic sintered ceramic for the base and arms of the actuator. Fukushima et al. teach a sintered ceramic composite element having a high bending strength to provide good thermal shock resistance (see also col. 2, lines 63-67). Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the actuator of the head gimbal assembly of Soeno et al. by a sintered ceramic composite element having a high bending strength as taught by Fukushima et al. in order to provide good thermal shock resistance. In addition, at the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to modify the elastic sintered ceramic as recited in the claimed invention (as per claims 48 and 50) because Applicant has not disclosed that the ZrO_2 material as recited in the claimed invention provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with Fukushima et al. because the elastic sintered ceramic as recited in the claimed invention would perform equally well such as high bending strength in Fukushima et al. Therefore, it would have been an obvious matter of design choice to modify the elastic sintered ceramic of Fukushima et al. to obtain the invention as specified in claims 48 and 50.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D. Kim whose telephone number is 571-272-4565. The examiner can normally be reached on Monday-Friday between 7:00 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Paul D Kim
Examiner
Art Unit 3729